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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Rolf BERGE

TITLE: Composition Comprising Protein Material and Compounds
Comprising Non-Oxidizable Fatty Acid Entities**AMENDED CLAIMS**

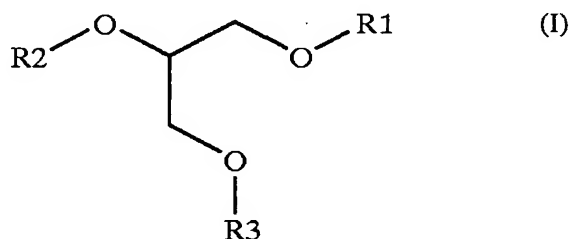
1 – 70 (cancelled)

71. (new) A method of prevention and/or treatment of insulin resistance, obesity, diabetes, fatty liver, hypercholesterolemia, dyslipidemia, atherosclerosis, coronary heart disease, thrombosis, stenosis, secondary stenosis, myocardial infarction, stroke, elevated blood pressure, endothelial dysfunction, procoagulant state, polycystic ovary syndrome, the metabolic syndrome, cancer, an inflammatory disorder, and a proliferate skin disorder comprising the administration of a pharmaceutical or nutritional composition comprising a combination of:

- 1) a protein material; and
- 2) one or more compounds comprising non β -oxidizable fatty acid entities represented by

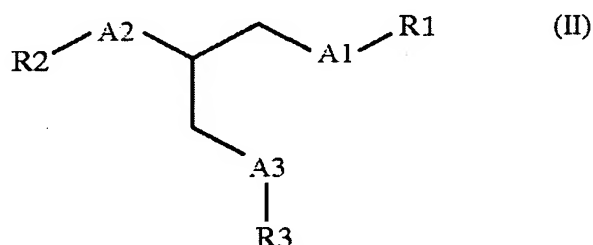
(a) the general formula $R''\text{-COO}-(\text{CH}_2)_{2n+1}\text{-X-R}'$, wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group or a SO_2 group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group and a SO_2 group; and R'' is a hydrogen atom or an alkyl group containing from 1 to 4 carbon atoms; and/or

(b) the general formula (I),



wherein R1, R2, and R3 represent

- i) a hydrogen atom; or
- ii) a group having the formula CO-R in which R is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, and the main chain of said R contains from 1 to 25 carbon atoms; or
- iii) a group having the formula CO-(CH₂)_{2n+1}-X-R', wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group or a SO₂ group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group and a SO₂ group;
- iv) an entity selected from the group comprising -P(O)₃CH₂CHNH₃COOH (serine), P(O)₃CH₂CH₂NH₃ (ethanolamine), P(O)₃CH₂CH₂N(CH₃)₃ (choline), P(O)₃CH₂CHOHCH₂OH (glycerol) and P(O)₃(CHOH)₆ (inositol);
- wherein R₁, R₂, and R₃ are chosen independently from i), ii), iii), or iv), but at least one of R₁, R₂, or R₃ is defined by iii); and/or
- (c) the general formula (II),



wherein A₁, A₂ and A₃ are chosen independently and represent an oxygen atom, a sulphur atom or an N-R₄ group in which R₄ is a hydrogen atom or a linear or branched alkyl group, saturated or unsaturated, optionally substituted, containing from 1 to 5 carbon atoms;

wherein R₁, R₂, and R₃ represent

- i) a hydrogen atom or a linear or branched alkyl group, saturated or unsaturated, optionally substituted, containing from 1 to 23 carbon atoms; or
- ii) a group having the formula CO-R in which R is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, and the main chain of said R contains from 1 to 25 carbon atoms; or
- iii) a group having the formula CO-(CH₂)_{2n+1}-X-R', wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group or a SO₂ group; n

is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group and a SO₂ group;

iv) an entity selected from the group comprising -P(O)₃CH₂CHNH₃COOH (serine), P(O)₃CH₂CH₂NH₃ (ethanolamine), P(O)₃CH₂CH₂N(CH₃)₃ (choline), P(O)₃CH₂CHOHCH₂OH (glycerol) and P(O)₃(CHOH)₆ (inositol);

wherein R₁, R₂, and R₃ are chosen independently from i), ii), iii), or iv), but at least one of R₁, R₂, or R₃ is defined by iii); and/or

a salt, prodrug or complex of the compounds according to (a)-(c).

72. (new) Method according to claim 71, where said prevention and/or treatment of cancer includes inhibition of: primary and secondary neoplasms, the growth of tumours, invasion of a primary tumour into connective tissue and formation of secondary tumours.

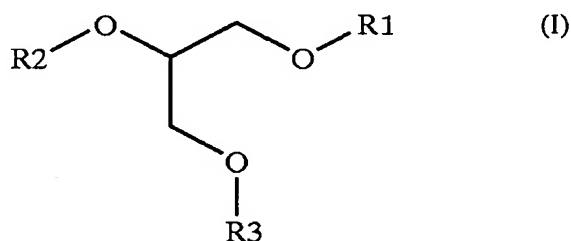
73. (new) Method according to claim 71 where the inflammatory disorder is selected from the group comprising immune mediated disorders such as rheumatoid arthritis, systemic vasculitis, systemic lupus erythematosus, systemic sclerosis, dermatomyositis, polymyositis, various autoimmune endocrine disorders, various immune mediated neurological disorders, various cardiovascular disorders, inflammatory bowel diseases and Chron's disease, non specific colitis, pancreatitis, nephritis, cholestasis/fibrosis of the liver, and acute and chronic allograft rejection after organ transplantation, and diseases that have an inflammatory component .

74. (new) Method according to claim 1, where said proliferate skin disorder is selected from the group comprising psoriasis, atopic dermatitis, non-specific dermatitis, primary irritant contact-dermatitis, allergic contact-dermatitis, lamellar ichthyosis, epidermolytic hyperkeratoses, pre-malign sun-induced keratoses, and seborrhoea.

75. (new) A method of improving the total body lipid composition of an animal comprising the administration or feeding of an animal feed comprising common feed components and a combination of:

- 1) a protein material; and
- 2) one or more compounds comprising non β -oxidizable fatty acid entities represented by

- (a) the general formula $R''\text{-COO}-(\text{CH}_2)_{2n+1}\text{-X-R}'$, wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group or a SO_2 group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group and a SO_2 group; and R'' is a hydrogen atom or an alkyl group containing from 1 to 4 carbon atoms; and/or
- (b) the general formula (I),

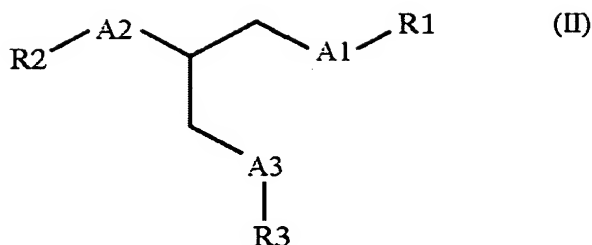


wherein R1, R2, and R3 represent

- i) a hydrogen atom; or
- ii) a group having the formula CO-R in which R is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, and the main chain of said R contains from 1 to 25 carbon atoms; or
- iii) a group having the formula $\text{CO}-(\text{CH}_2)_{2n+1}\text{-X-R}'$, wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group or a SO_2 group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group and a SO_2 group;
- iv) an entity selected from the group comprising $\text{-P}_3\text{CH}_2\text{CHNH}_3\text{COOH}$ (serine), $\text{P}_3\text{CH}_2\text{CH}_2\text{NH}_3$ (ethanolamine), $\text{P}_3\text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)_3$ (choline), $\text{P}_3\text{CH}_2\text{CHOHCH}_2\text{OH}$ (glycerol) and $\text{P}_3(\text{CHOH})_6$ (inositol);

wherein R1, R2, and R3 are chosen independently from i), ii), iii), or iv), but at least one of R1, R2, or R3 is defined by iii); and/or

- (c) the general formula (II),



wherein A1, A2 and A3 are chosen independently and represent an oxygen atom, a sulphur atom or an N-R4 group in which R4 is a hydrogen atom or a linear or branched alkyl group, saturated or unsaturated, optionally substituted, containing from 1 to 5 carbon atoms;

wherein R1, R2, and R3 represent

- i) a hydrogen atom or a linear or branched alkyl group, saturated or unsaturated, optionally substituted, containing from 1 to 23 carbon atoms; or
- ii) a group having the formula CO-R in which R is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, and the main chain of said R contains from 1 to 25 carbon atoms; or
- iii) a group having the formula CO-(CH₂)_{2n+1}-X-R', wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group or a SO₂ group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group and a SO₂ group;
- iv) an entity selected from the group comprising -P0₃CH₂CHNH₃COOH (serine), P0₃CH₂CH₂NH₃ (ethanolamine), P0₃CH₂CH₂N(CH₃)₃ (choline), P0₃CH₂CHOHCH₂OH (glycerol) and P0₃(CHOH)₆ (inositol);

wherein R1, R2, and R3 are chosen independently from i), ii), iii), or iv), but at least one of R1, R2, or R3 is defined by iii); and/or

a salt, prodrug or complex of the compounds according to (a)-(c).

76. (new) Method according to claim 75 where the improvement of the total lipid composition comprises decreasing the total body lipid levels.

77. (new) Method according to claim 75 where the improvement of the total lipid composition comprises decreasing the total body saturated fatty acid levels.

78. (new) Method according to claim 75 where the improvement of the total lipid composition comprises increasing the total body n-3 fatty acid levels.
79. (new) Method according to claim 71, wherein said protein material is fermented.
80. (new) Method according to claim 75, wherein said protein material is fermented.
81. (new) Method according to claim 71, wherein said protein material is a single cell protein material (SCP).
82. (new) Method according to claim 75, wherein said protein material is a single cell protein material (SCP).
83. (new) Method according to claim 71, wherein said protein material is a fish protein hydrolysate.
84. (new) Method according to claim 75, wherein said protein material is a fish protein hydrolysate.
85. (new) Method according to claim 71, where said protein material is soy protein.
86. (new) Method according to claim 75, where said protein material is soy protein.
87. (new) Method according to claim 71, wherein said protein material is a fermented soy protein material.
88. (new) Method according to claim 75, wherein said protein material is a fermented soy protein material.
89. (new) Method according to claim 71, wherein said protein material is Gendaxin®.
90. (new) Method according to claim 75, wherein said protein material is Gendaxin®.
91. (new) Method according to claim 71, where the compound(s) comprising a non β -oxidizable fatty acid entity are non β -oxidizable fatty acids.

92. (new) Method according to claim 75, where the compound(s) comprising a non β -oxidizable fatty acid entity are non β -oxidizable fatty acids.
93. (new) Method according to claim 71, where the compound(s) comprising a non β -oxidizable fatty acid entity are tetradecylthioacetic acid (TTA), tetradecylselenoacetic acid and/or 3-Thia-15-heptadecyne.
94. (new) Method according to claim 75, where the compound(s) comprising a non β -oxidizable fatty acid entity are tetradecylthioacetic acid (TTA), tetradecylselenoacetic acid and/or 3-Thia-15-heptadecyne.
95. (new) Method according to claim 71, where X is a sulphur atom or a selenium atom.
96. (new) Method according to claim 75, where X is a sulphur atom or a selenium atom.
97. (new) Method according to claim 71, where the compound(s) comprising a non β -oxidizable fatty acid entity is a phospholipid, wherein said phospholipid is selected from the group comprising phosphatidyl serine, phosphatidyl choline, phosphatidyl ethanolamine, phosphatidyl inositol, phosphatidyl glycerol, and/or diphosphatidyl glycerol.
98. (new) Method according to claim 75, where the compound(s) comprising a non β -oxidizable fatty acid entity is a phospholipid, wherein said phospholipid is selected from the group comprising phosphatidyl serine, phosphatidyl choline, phosphatidyl ethanolamine, phosphatidyl inositol, phosphatidyl glycerol, and/or diphosphatidyl glycerol.
99. (new) Method according to claim 71, where the compound comprising a non β -oxidizable fatty acid entity is the phosphatidyl choline derivative 1,2-ditetradecylthioacetoyl-*sn*-glycero-3-phosphocholine.
100. (new) Method according to claim 75, where the compound comprising a non β -oxidizable fatty acid entity is the phosphatidyl choline derivative 1,2-ditetradecylthioacetoyl-*sn*-glycero-3-phosphocholine.
101. (new) Method according to claim 71, where the compound comprising a non β -oxidizable fatty acid entity is the phosphatidyl ethanolamine derivative 1,2-ditetradecylthioacetoyl-*sn*-glycero-3-phosphoethanolamine.

102. (new) Method according to claim 75, where the compound comprising a non β -oxidizable fatty acid entity is the phosphatidyl ethanolamine derivative 1,2-ditetradecylthioacetoyl-*sn*-glycero-3-phosphoethanolamine.

103. (new) Method according to claim 71, where the compound(s) comprising a non β -oxidizable fatty acid entity are mono-, di- or tri-acylglycerides.

104. (new) Method according to claim 75, where the compound(s) comprising a non β -oxidizable fatty acid entity are mono-, di- or tri-acylglycerides.

105. (new) Method according to claim 71, where the compound(s) comprising a non β -oxidizable fatty acid entity are tri-acylglycerides comprising tetradecylthioacetic acid (TTA).

106. (new) Method according to claim 75, where the compound(s) comprising a non β -oxidizable fatty acid entity are tri-acylglycerides comprising tetradecylthioacetic acid (TTA).

107. (new) Method according to claim 71, wherein the composition or animal feed further comprises a plant and/or fish oil.

108. (new) Method according to claim 75, wherein the composition or animal feed further comprises a plant and/or fish oil.

109. (new) A method of prevention and/or treatment of hypercholesterolemia and conditions negatively effected by high cholesterol levels, insulin resistance, obesity, diabetes, fatty liver, dyslipidemia, atherosclerosis, coronary heart disease, thrombosis, stenosis, secondary stenosis, myocardial infarction, stroke, elevated blood pressure, endothelial dysfunction, procoagulant state, polycystic ovary syndrome, the metabolic syndrome, cancer, inflammatory disorders and proliferate skin disorders comprising the administration of a preparation comprising a combination of:

- 1) a protein material, and
- 2) a plant or fish oil,

wherein the protein material is chosen from the group comprising single cell protein material (SCP), fish protein hydrolysate, and a fermented soy protein material.

110. (new) Method according to claim 109, wherein said protein material is Gendaxin®.

111. (new) Method according to claim 107, where the plant or fish oil comprise polyunsaturated fatty acids.

112. (new) Method according to claim 108, where the plant or fish oil comprise polyunsaturated fatty acids.

113. (new) Method according to claim 109, where the plant or fish oil comprise polyunsaturated fatty acids.

114. (new) Method according to claim 107, where the plant oil is selected from the group comprising sunflower oil, soy oil and olive oil.

115. (new) Method according to claim 108, where the plant oil is selected from the group comprising sunflower oil, soy oil and olive oil.

116. (new) Method according to claim 109, where the plant oil is selected from the group comprising sunflower oil, soy oil and olive oil.

117. (new) Method according to claim 109, where said prevention and/or treatment of cancer includes inhibition of: primary and secondary neoplasms, the growth of tumours, invasion of a primary tumour into connective tissue and formation of secondary tumours.

118. (new) Method according to claim 109, where the inflammatory disorder is selected from the group comprising immune mediated disorders such as rheumatoid arthritis, systemic vasculitis, systemic lupus erythematosus, systemic sclerosis, dermatomyositis, polymyositis, various autoimmune endocrine disorders, various immune mediated neurological disorders, various cardiovascular disorders, inflammatory bowel diseases and Chron's disease, non specific colitis, pancreatitis, nephritis, cholestatis/fibrosis of the liver, and acute and chronic allograft rejection after organ transplantation, and diseases that have an inflammatory component.

119. (new) Method according to claim 109, where said proliferate skin disorder is selected from the group comprising psoriasis, atopic dermatitis, non-specific dermatitis, primary irritant contact-dermatitis, allergic contact-dermatitis, lamellar ichthyosis, epidermolytic hyperkeratoses, pre-malign sun-induced keratoses, and seborrhoea.

120. (new) Method according to claim 71, wherein said composition is administered or fed to an animal.

121. (new) Method according to claim 109, wherein said composition is administered or fed to an animal.

122. (new) Method according to claim 75, wherein said animal is a human.

123. (new) Method according to claim 120, wherein said animal is a human.

124. (new) Method according to claim 121, wherein said animal is a human.

125. (new) Method according to claim 75, wherein said animal is an agricultural animal.

126. (new) Method according to claim 120, wherein said animal is an agricultural animal.

127. (new) Method according to claim 121, wherein said animal is an agricultural animal.

128. (new) Method according to claim 75, wherein said animal is a domestic or pet animal.

129. (new) Method according to claim 120, wherein said animal is a domestic or pet animal.

130. (new) Method according to claim 121, wherein said animal is a domestic or pet animal.

131. (new) Method according to claim 75, wherein said animal is a fish or shellfish.

132. (new) Method according to claim 120, wherein said animal is a fish or shellfish.

133. (new) Method according to claim 121, wherein said animal is a fish or shellfish.

134. (new) Method according to claim 71, where the compounds comprising non β -oxidizable fatty acid entities comprise a daily dosage of about 1 – 200 mg/kg for human consumption, and about 1 – 2000 mg/kg for animal consumption.

135. (new) Method according to claim 75, where the compounds comprising non β -oxidizable fatty acid entities comprise a daily dosage of about 1 – 200 mg/kg for human consumption, and about 1 – 2000 mg/kg for animal consumption.

136. (new) Method according to claim 71, where the protein material comprise a daily dosage of about 5 – 500 mg/kg for human consumption, and from 5 mg/kg up to the total daily protein consumption for animal consumption.

137. (new) Method according to claim 75, where the protein material comprise a daily dosage of about 5 – 500 mg/kg for human consumption, and from 5 mg/kg up to the total daily protein consumption for animal consumption.

138. (new) Method according to claim 109, where the protein material comprise a daily dosage of about 5 – 500 mg/kg for human consumption, and from 5 mg/kg up to the total daily protein consumption for animal consumption.

139. (new) Method according to claim 107, where the oil comprise a daily dosage of about 1 – 300 mg/kg for human consumption, and from 1 mg/kg up to the total daily fat consumption for animal consumption.

140. (new) Method according to claim 108, where the oil comprise a daily dosage of about 1 – 300 mg/kg for human consumption, and from 1 mg/kg up to the total daily fat consumption for animal consumption.

141. (new) Method according to claim 109, where the oil comprise a daily dosage of about 1 – 300 mg/kg for human consumption, and from 1 mg/kg up to the total daily fat consumption for animal consumption.

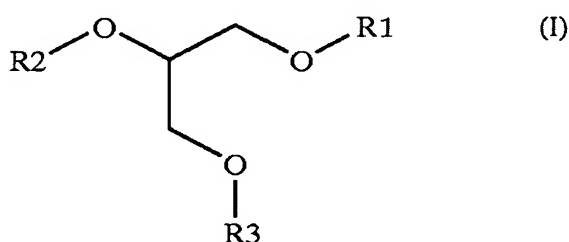
142. (new) Method according to claim 75, where the animal feed is at least one selected from the group comprising a nutritional composition, veterinary composition, and a functional food product.

143. (new) A composition, comprising a combination of:
1) a protein material; and

2) one or more compounds comprising non β -oxidizable fatty acid entities represented by

(a) the general formula $R''\text{-COO}-(\text{CH}_2)_{2n+1}\text{-X-R}'$, wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group or a SO_2 group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group and a SO_2 group; and R'' is a hydrogen atom or an alkyl group containing from 1 to 4 carbon atoms; and/or

(b) the general formula (I),



wherein R1, R2, and R3 represent

i) a hydrogen atom; or

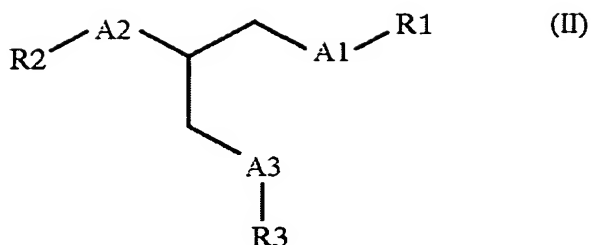
ii) a group having the formula CO-R in which R is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, and the main chain of said R contains from 1 to 25 carbon atoms; or

iii) a group having the formula $\text{CO}-(\text{CH}_2)_{2n+1}\text{-X-R}'$, wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group or a SO_2 group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group and a SO_2 group;

iv) an entity selected from the group comprising $\text{-P}_0\text{CH}_2\text{CHNH}_3\text{COOH}$ (serine), $\text{P}_0\text{CH}_2\text{CH}_2\text{NH}_3$ (ethanolamine), $\text{P}_0\text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)_3$ (choline), $\text{P}_0\text{CH}_2\text{CHOHCH}_2\text{OH}$ (glycerol) and $\text{P}_0(\text{CHOH})_6$ (inositol);

wherein R1, R2, and R3 are chosen independently from i), ii), iii), or iv), but at least one of R1, R2, or R3 is defined by iii); and/or

(c) the general formula (II),



wherein A1, A2 and A3 are chosen independently and represent an oxygen atom, a sulphur atom or an N-R4 group in which R4 is a hydrogen atom or a linear or branched alkyl group, saturated or unsaturated, optionally substituted, containing from 1 to 5 carbon atoms;

wherein R1, R2, and R3 represent

- i) a hydrogen atom or a linear or branched alkyl group, saturated or unsaturated, optionally substituted, containing from 1 to 23 carbon atoms; or
- ii) a group having the formula CO-R in which R is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, and the main chain of said R contains from 1 to 25 carbon atoms; or
- iii) a group having the formula CO-(CH₂)_{2n+1}-X-R', wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group or a SO₂ group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group and a SO₂ group;
- iv) an entity selected from the group comprising -P0₃CH₂CHNH₃COOH (serine), P0₃CH₂CH₂NH₃ (ethanolamine), P0₃CH₂CH₂N(CH₃)₃ (choline), P0₃CH₂CHOHCH₂OH (glycerol) and P0₃(CHOH)₆ (inositol);

wherein R1, R2, and R3 are chosen independently from i), ii), iii), or iv), but at least one of R1, R2, or R3 is defined by iii); and/or

a salt, prodrug or complex of the compounds according to (a)-(c)

144. (new) Composition according to claim 143, wherein said protein material is fermented.

145. (new) Composition according to claim 143, wherein said protein material is a single cell protein material (SCP).

146. (new) Composition according to claim 143, wherein said protein material is a fish protein hydrolysate.
147. (new) Composition according to claim 143, where said protein material is soy protein.
148. (new) Composition according to claim 147, wherein said protein material is a fermented soy protein material.
149. (new) Composition according to claim 148, wherein said soy protein material is Gendaxin®.
150. (new) Composition according to claim 143, where the composition comprise a daily dosage of a compound comprising a non β -oxidizable fatty acid analogue of about 1 – 200 mg/kg for human consumption, and about 1 – 2000 mg/kg for animal consumption.
151. (new) Composition according to claim 143, wherein the composition further comprises a plant and/or fish oil.
152. (new) Composition according to claim 143, where the compound(s) comprising a non β -oxidizable fatty acid entity are non β -oxidizable fatty acids.
153. (new) Composition according to claim 152, where the compound(s) comprising a non β -oxidizable fatty acid entity are tetradecylthioacetic acid (TTA), tetradecylselenoacetic acid and/or 3-Thia-15-heptadecyne.
154. (new) Composition according to claim 143, where X is a sulphur atom or a selenium atom.
155. (new) Composition according to claim 143, where the compound(s) comprising a non β -oxidizable fatty acid entity is a phospholipid, wherein said phospholipid is selected from the group comprising phosphatidyl serine, phosphatidyl choline, phosphatidyl ethanolamine, phosphatidyl inositol, phosphatidyl glycerol, and/or diphosphatidyl glycerol.
156. (new) Composition according to claim 143, where the compound comprising a non β -oxidizable fatty acid entity is the phosphatidyl choline derivative 1,2-ditetradecylthioacetoyl-*sn*-glycero-3-phosphocholine.

157. (new) Composition according to claim 143, where the compound comprising a non β -oxidizable fatty acid entity is the phosphatidyl ethanolamine derivative 1,2-ditetradecylthioacetoyl-*sn*-glycero-3-phosphoethanolamine.

158. (new) Composition according to claim 143, where the compound(s) comprising a non β -oxidizable fatty acid entity are mono-, di- or tri-acylglycerides.

159. (new) Composition according to claim 158, where the compound(s) comprising a non β -oxidizable fatty acid entity are tri-acylglycerides comprising tetradecylthioacetic acid (TTA).

160. (new) A composition comprising a combination of:

- 1) a protein material, and
- 2) a plant or fish oil,

wherein the protein material is chosen from the group comprising single cell protein material (SCP), fish protein hydrolysate, or a fermented soy protein material.

161. (new) Method according to claim 160, wherein said protein material is Gendaxin®.

162. (new) Composition according to claim 143, where the plant or fish oil comprise polyunsaturated fatty acids.

163. (new) Composition according to claim 160, where the plant or fish oil comprise polyunsaturated fatty acids.

164. (new) Composition according to claim 160, where the plant oil is selected from the group comprising sunflower oil, soy oil and olive oil.

165. (new) Composition according to claim 143, where the composition comprises a daily dosage of protein material of about 5 – 500 mg/kg for human consumption, and from 5 mg/kg up to the total daily protein consumption for animal consumption.

166. (new) Composition according to claim 160, where the composition comprises a daily dosage of protein material of about 5 – 500 mg/kg for human consumption, and from 5 mg/kg up to the total daily protein consumption for animal consumption.

167. (new) Composition according to claim 143, where the composition comprises a daily dosage of oil of about 1 – 300 mg/kg for human consumption, and from 1 mg/kg up to the total daily fat consumption for animal consumption.

168. (new) Composition according to claim 160, where the composition comprises a daily dosage of oil of about 1 – 300 mg/kg for human consumption, and from 1 mg/kg up to the total daily fat consumption for animal consumption.

169. (new) Composition according to claim 143, wherein the composition is an animal feed further comprising common feed components.

170. (new) Composition according to claim 160, wherein the composition is an animal feed further comprising common feed components.

171. (new) Composition according to claim 143, wherein the animal feed is a fish feed.

172. (new) Composition according to claim 160, wherein the animal feed is a fish feed.

173. (new) Composition according to claim 143, where the fish feed is salmon feed.

174. (new) Composition according to claim 160, where the fish feed is salmon feed.

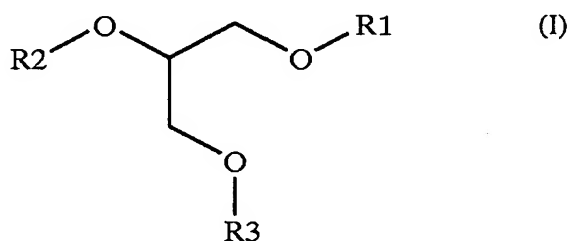
175. (new) Composition according to claim 143, where the common feed components comprise fishmeal and/or fish oil.

176. (new) Composition according to claim 160, where the common feed components comprise fishmeal and/or fish oil.

178. (new) Method for producing an animal based product with improved fatty acid composition, comprising of feeding the animal from which the product is to be produced with an animal feed comprising common feed components and a combination of:

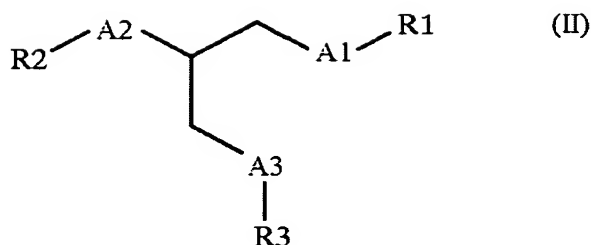
- 1) a protein material; and
- 2) one or more compounds comprising non β -oxidizable fatty acid entities represented by

- (a) the general formula $R''\text{-COO}-(\text{CH}_2)_{2n+1}\text{-X-R}'$, wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group or a SO_2 group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group and a SO_2 group; and R'' is a hydrogen atom or an alkyl group containing from 1 to 4 carbon atoms; and/or
- (b) the general formula (I),



wherein R1, R2, and R3 represent

- i) a hydrogen atom; or
 - ii) a group having the formula CO-R in which R is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, and the main chain of said R contains from 1 to 25 carbon atoms; or
 - iii) a group having the formula $\text{CO}-(\text{CH}_2)_{2n+1}\text{-X-R}'$, wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group or a SO_2 group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH_2 group, a SO group and a SO_2 group;
 - iv) an entity selected from the group comprising $\text{-P0}_3\text{CH}_2\text{CHNH}_3\text{COOH}$ (serine), $\text{P0}_3\text{CH}_2\text{CH}_2\text{NH}_3$ (ethanolamine), $\text{P0}_3\text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)_3$ (choline), $\text{P0}_3\text{CH}_2\text{CHOHCH}_2\text{OH}$ (glycerol) and $\text{P0}_3(\text{CHOH})_6$ (inositol);
- wherein R1, R2, and R3 are chosen independently from i), ii), iii), or iv), but at least one of R1, R2, or R3 is defined by iii); and/or
- (c) the general formula (II),



wherein A1, A2 and A3 are chosen independently and represent an oxygen atom, a sulphur atom or an N-R4 group in which R4 is a hydrogen atom or a linear or branched alkyl group, saturated or unsaturated, optionally substituted, containing from 1 to 5 carbon atoms;

wherein R1, R2, and R3 represent

- i) a hydrogen atom or a linear or branched alkyl group, saturated or unsaturated, optionally substituted, containing from 1 to 23 carbon atoms; or
- ii) a group having the formula CO-R in which R is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, and the main chain of said R contains from 1 to 25 carbon atoms; or
- iii) a group having the formula CO-(CH₂)_{2n+1}-X-R', wherein X is a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group or a SO₂ group; n is an integer of 0 to 11; and R' is a linear or branched alkyl group, saturated or unsaturated, optionally substituted, wherein the main chain of said R' contains from 13 to 23 carbon atoms and optionally one or more heterogroups selected from the group comprising an oxygen atom, a sulphur atom, a selenium atom, an oxygen atom, a CH₂ group, a SO group and a SO₂ group;
- iv) an entity selected from the group comprising -P0₃CH₂CHNH₃COOH (serine), P0₃CH₂CH₂NH₃ (ethanolamine), P0₃CH₂CH₂N(CH₃)₃ (choline), P0₃CH₂CHOHCH₂OH (glycerol) and P0₃(CHOH)₆ (inositol);

wherein R1, R2, and R3 are chosen independently from i), ii), iii), or iv), but at least one of R1, R2, or R3 is defined by iii); and/or

a salt, prodrug or complex of the compounds according to (a)-(c)

179. (new) Method for producing an animal based product with improved fatty acid composition, comprising of feeding the animal from which the product is to be produced with an animal feed comprising common feed components and a protein material and optionally a non β -oxidizable fatty acid analogue.

180. (new) Method according to claim 178, wherein the animal feed further comprises fermented soy protein material.
181. (new) Method according to claim 179, wherein the animal feed further comprises fermented soy protein material.
182. (new) Method according to claim 178, where the animal based product is a meat product.
183. (new) Method according to claim 179, where the animal based product is a meat product.
184. (new) Method according to claim 178, where the animal based product is an oil based product.
185. (new) Method according to claim 179, where the animal based product is an oil based product.
186. (new) Method according to claim 178, where the animal based product is a skin based product.
187. (new) Method according to claim 179, where the animal based product is a skin based product.